REMARKS

In the present Amendment, claims 1 and 17 have been amended to incorporate the recitation of claim 3. Accordingly, claim 3 has been cancelled.

Claim 20 has been amended to correct a typographical error, correcting the word "powder" to "polymer."

New claim 22 has been added. Section 112 support for claim 22 may be found, for example, at page 16, third paragraph of the specification.

No new matter has been added and entry of the Amendment is respectfully requested. Upon entry of the Amendment, claims 1-2, 4-5 and 7-22 will be pending.

In Paragraph No. 2 of the Action, claims 1-5 and 7-21 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over Ohya et al (US 6,890,070) in view of Kasahara (US 6,838,135).

Applicants submit that this rejection should be withdrawn because Ohya et al '070 and Kasahara '135 do not disclose or render obvious the ink-jet recording medium or image forming method of the present invention.

As recited in independent claim 1, the present invention relates to an ink-jet recording medium. The recording medium includes a support and an ink receiving layer disposed on the support. The ink receiving layer contains at least fine polymer particles and has a porous structure.

As seen in claim 1 as amended, secondary particles of the fine polymer particles constitute the porous structure of the ink receiving layer.

The fine polymer particles are selected from homo- or co-polymers of vinyl monomers, ester polymers, urethane polymers, amide polymers, epoxy polymers, and modified products and copolymers of these polymers, and the content of the fine polymer particles is 50% by mass or more of solid contents in the ink receiving layer.

Finally, the ink receiving layer has a pore volume per unit thickness (A/B) of 2.0×10^{-5} $ml/cm^2/\mu m$ or more, where the pore volume A and the dry thickness B of the ink receiving layer are as defined in the claim.

Turning to Ohya et al, the Examiner states that Ohya et al disclose that secondary particles of the fine polymer particles constitute the porous structure of the ink-receiving layer, citing the Examples and column 21, lines 40-65 of Ohya et al. Applicants, however, do not find any disclosure, teaching or suggestion in Ohya et al of an ink receiving layer, wherein secondary particles of the fine polymer particles constitute the porous structure of the ink-receiving layer, as provided in present claims 1 and 17. Ohya et al and Kasahara teach the use of inorganic (i.e., non-polymeric) fine particles to provide porosity to the ink-receiving layer, and do not teach the use of secondary fine polymer particles to provide the porous structure of the ink-receiving layer.

For these reasons, Ohya et al and Kasahara do not disclose or render obvious the ink-jet recording medium or image forming method of the present invention.

Further, Applicants at pages 8-10 of the Amendment filed January 12, 2006 pointed out certain respects in which they did not agree with the Examiner's characterization of Ohya et al. The characterization of Ohya et al in the present Action is essentially the same as in the previous Action, and Applicants' points do not appear to have been responded to or addressed in the present Action.

Specifically, the Examiner states that the ink-receiving layer of Ohya et al. contains "at least fine polymer particles," citing column 7, lines 10-35. This does not appear to be correct. Ohya et al. expressly state that where a porous type ink-absorbing layer is used, the fine particles employed in the layer "are preferably alumina or silica," see Ohya et al. at column 7, lines 10-11, that is, inorganic fine particles. Further, Ohya et al. state that: "In the invention, it is specifically preferred to form pores by including various inorganic fine particles having a mean diameter of not more than 100 nanometers in a porous layer." See column 7, lines 46-49.

Next, the Examiner asserts that the fine polymer particles "are vinyl type copolymer latexes," citing column 8, lines 35-65. While Ohya et al. do employ a styrene-acryl type latex which contains fine polymer particles in certain examples, the cited description at column 8, lines 35-65 relates to water-soluble hydrophilic binders, and not to fine polymer particles.

The Examiner further states that Ohya et al. "disclose that the second particles of the fine polymer particles constitute the porous structure of the ink-receiving layer," citing the "Examples" and column 21, lines 40-65. As discussed above and with due respect, Applicants do not agree. The cited description at column 21, lines 40-65 is within the description of "Recording Medium 2" of Ohya et al. In Recording Medium 2, it appears that fine particles of silica were used in combination with fine polymer particles from a styrene-acryl type latex. The solid ratio of silica/thermoplastic fine particles was 6/4. See column 21, lines 53-54. Therefore, it would appear that the porous structure of the ink-receiving layer would be due primarily to the silica particles, and not to the fine polymer particles

Next, in relation to present claims 14 and 15, the Examiner states that Ohya et al. "also discloses that the ink-receiving layer further contains a crosslinking agent and a mordant," citing

the "Examples." With due respect, Applicants do not see a disclosure of a crosslinking agent or a mordant anywhere in the Examples of Ohya et al.

Next, the Examiner asserts that Ohya et al. "also disclose that the total volume of the pores in the ink-receiving layer is at least 80%," and that "the maximum peak in the pore radius distribution of the ink-receiving layer is 2 to 20 nanometers." Again, the Examiner broadly cites the "Examples." Applicants do not see these disclosures in the Examples of Ohya et al.

The Examiner next asserts that Ohya et al. "also disclose that the fine polymer particle have an average diameter of 3.0 micrometer," citing column 9, lines 55-67. The cited disclosure applies only to an alternative embodiment of Ohya et al. employing a polyurethane emulsion, which embodiment does not appear to be exemplified in Ohya et al.

Still further, the Examiner asserts that Ohya et al. disclose that the "mixing ratio of the fine polymer particle and binder is in the range of 2:1 to 20:1," citing column 9, lines 30-35. Applicants respectfully submit that this does not appear to be correct. The cited description expressly states that "The ratio of inorganic fine particles to a water-soluble resin used in a color-receiving layer is generally from 2/1 to 20/1, and specifically preferably from 3/1 to 10/1." "Polymer" fine particles are not mentioned; to the contrary, the reference is to "inorganic" fine particles.

Turning to Kasahara, the Examiner's characterization of Kasahara omits one significant point. The point the Examiner omits is that Kasahara teaches at column 12, lines 9-13, that "The porous layer preferably contains the later-mentioned inorganic particle[s] for preventing the adhesion of the organic fine particles with together and for further raising the ink absorption

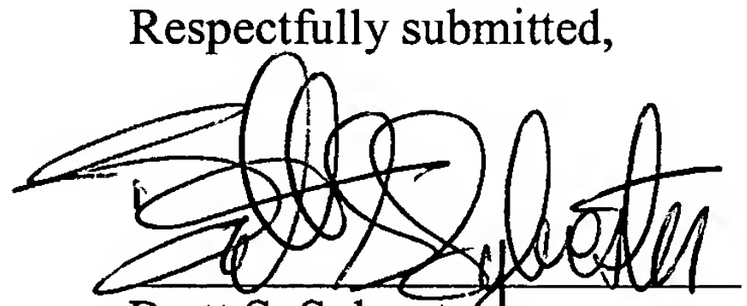
speed." Although the Examiner does not mention or refer to it, this teaching is contained in a portion of Kasahara cited by the Examiner.

In sum, Applicants submit that Ohya et al and Kasahara do not disclose or render obvious the present invention, at least for the reason that neither Ohya et al nor Kasahara teaches or suggests an ink-receiving layer, wherein secondary polymer particles of the fine polymer particles constitute the porous structure of the ink-receiving layer.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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